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ABSTRACT

This report defines and explains the importance of the learning outcomes approach. According to the paper, this approach bases curriculum design, content, delivery and assessment on the application and integration of knowledge, skills and values -- a comprehensiveness that is not achieved with a competency approach. The report also discusses learning outcomes in terms of: (1) assessment, stressing the need for "authentic assessment," which simulates real world situations; (2) generic abilities, including research and learning strategies, critical thinking, and communication; (3) the various disciplines, including the impact of outcomes on the transfer process for receiving and sending institutions; and (4) faculty concerns over the imposition of a business or industrial model on higher education. The learning outcomes approach may be contrasted against traditional academic approaches by its emphasis on determining curriculum on the basis of: (1) what students need to know, as determined by student and societal needs; (2) what students should be able to do; and (3) what generic abilities should be developed and assessed. The report suggests that learning outcomes should be the based on broad analysis of the long-term needs and social responsibilities of students, which in turn forms the basis for determining curricula. (VF)

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So, What's a Learning Outcome Anyway?

Mark Battersby

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"SO, WHAT'S A LEARNING OUTCOME ANYWAY?"

Mark Battersby and the Learning Outcomes Network

Members of the Learning Outcomes Network continue to have requests for someone (The Centre?!?) to define what a "learning outcome" is. This is a request that we are reluctant to satisfy because we believe that *"learning outcomes" are best viewed in the context of an approach to thinking about teaching and learning* rather than a formula or a change in course outline terminology.

A better question is: what is the *concept* of the learning outcomes approach? The approach we advocate is for faculty to always think first about what is essential that students know or be able to do after the course or program -- what students need to know and could make powerful use of to enhance their lives and more effectively contribute to society. We believe that such reflection will lead instructors to focus on a broad synthesis of abilities that combine knowledge, skills and values into a whole that reflects how people really use knowledge.

Learning outcomes and other approaches to teaching and learning

In order to explain the approach we have taken to learning outcomes, we need to contrast this approach to a variety of current theories and practices. Unfortunately such contrasts inevitably involve over simplification (especially in what is supposed to be a short paper!). We recognize that educators use a wide range of approaches to curriculum and assessment, and that the instructional approaches of most teachers would overlap the categories we use. As with any effort to chart a territory, the big picture (large scale) is at the expense of small-scale precision. Hopefully this problem will not interfere with appreciation of our approach.

Learning outcomes and competencies

The learning outcomes approach to education shares with "competency approaches" the emphasis on the application of knowledge; it differs from many competency approaches by focusing more on integration. The learning outcomes approach emphasizes that for competencies to be useable they must be integrated. Competencies such as being able to punctuate correctly or know appropriate vocabulary must be recognized as subordinate to the learning outcome of writing and communicating effectively. In practice this means assessing vocabulary in the context of use not via some multiple-choice test. Instruction should aim clearly at enabling students to attain an effective level of integration. Therefore, outcomes are not discrete skills or mere collections of knowledge, but the integrated complexes of knowledge, abilities and attitudes. We are struck by how difficult this is to express in English—there seems to be no term that applies readily to the integrated combination of knowledge, skills and values that we believe will characterize most outcomes.

The learning outcomes approach shares with the competency approach clarity about the goals of instruction. Both focus on what the student should be able to do at the end of a course or program. This is in contrast to approaches to curriculum that emphasize coverage without any clear indication of what someone should be able to do with the material covered. Many studies have shown that

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students have difficulty transferring knowledge both between courses, and from school to life.[1] Knowledge should be empowering, but if taught primarily as discrete items of information or skills, we do not have grounds for confidence that students will be empowered to make integrated use of this knowledge outside of school.

Learning outcomes and course objectives

Course objectives and learning outcomes are often contrasted, and we are frequently asked to describe the difference between objectives and learning outcomes. Both are ways of stating the goals of a course. In looking at a variety of course objectives, we have found that they tend to include statements about what the instructor intends to do (provide a basic introduction to..., expose the student to...) and sometimes what both the instructor and student will do ("there will be daily class discussions") and also outcome type statements about what the student should know or be able to do at the end of the course.

Since learning outcomes express what the instructor intends the student to be able to do, they are often part of the list of objectives. By emphasizing what students should know and be able to do as the result of the course, both the teacher and the student should be clear about the goals of the educational project. And while the instructor obviously intends "exposure" to certain material to have an outcome, only talking about "exposure" or "introduction" leaves it unclear what the student should know or be able to do as a result of this experience. Compare "The student will be introduced to the essentials of good writing" with "The student should be able be able to write effectively for different audiences and different purposes." While objective statements express what the instructor thinks are central to his/her intentions for the course, there is no requirement on objectives that they express the essential learning that students should achieve.

Learning outcomes and assessment

As part of the reflections within the Learning Outcomes Network, we have come to recognize that how we assess a learning outcome is crucial to its educational value. The choice of assignment or assessment instrument is revealing of the concept of instruction and learning that the instructor is using. Key to the outcomes approach to assessment is the use of "authentic assessment." This approach stresses creating assignments and assessments that simulate as much as possible the situations in which students would make use of the knowledge, skills and values emphasized in the course. By focusing assessment in this way the instructor shows clearly that the student should be able to make use of the learning outside of class.

The implications of this approach are significant. It means that standard written tests will seldom be appropriate to assess outcomes -- because what students will do with the knowledge and skills they are learning is not usually writing tests or essays -- unless we believe that the point of the course is primarily to prepare students to succeed in subsequent courses. This does not mean that the common means of assessment (tests, quizzes and essays) have no place in a learning outcomes-based curriculum. They should be used to the extent that they contribute to (through feedback and practice) and do not detract from, the student attaining the courses' learning outcomes.

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[1] Perkins, D.N. and Gavriel Salomon, (1988). Are Cognitive Skills Context-Bound? *Educational Researcher*, Jan/Feb 1989, pp. 16-25. Reviews a number of these studies and provides an extensive bibliography.

Such assessment methods also provide an appropriate opportunity for the student to practice the integration of his or her learning and to receive meaningful feedback. Assessment should be thought of not merely as a means for evaluation, but also as a primary means for learning. Because learning is greatly facilitated by doing, creating and using, meaningful and rich assignments are a key component of instruction. Seen in this context, assessment is directly related to learning, not merely to evaluation or certification.

We also reject the notion that an outcome must be readily *measured*. Yes, outcomes should be assessable -- both faculty and students need to know whether the outcomes are being achieved. Because outcomes must be assessed in a realistic context, evaluation will usually require instructor judgment rather than "measurement." The spectre that measurement raises is one of over-simplification of the assessment process so that what is assessed can easily be quantified. Multiple choice tests have the virtue of being easily graded and numbers easily assigned to student performance, but they fail to assess whether students can apply the knowledge that they are able to recall on an exam. Also, they send the dangerous message to the student that the point of the course is not to acquire "useable knowledge," but rather "testable knowledge."

Nor should the outcome be confused with the evidence that the student has attained it. Often instructors introduce outcomes statements with the phrase "the student will *demonstrate*...(e.g. effective use of communication technology). But of course what the course is aiming at is the student having a certain ability, the demonstration is just to provide evidence that she does. Confusing outcomes with the demonstration appears to be confusing the educational project. We are not preparing students to produce successful demonstrations in school, but rather helping them to acquire knowledge and abilities that they can make effective use of outside school.

Learning outcomes and generic abilities

Generic abilities

Because the learning outcomes approach starts first with what students should be able to know or do, it requires that faculty need to think carefully about what a student should get out of a course or program. It means addressing the question of what social or student needs one's course should be addressing. We believe that such reflection leads not only to a clear articulation of the knowledge, abilities, and attitudes that are germane to the immediate subject matter or discipline, but also to related general knowledge and skills. Because of the constantly changing nature of knowledge and work specific skills, all people need generic abilities that enable them to continue to learn and engage the world thoughtfully after they leave school. Preparing students for this state of "life long learning" means teaching more than the immediate knowledge included in most programs and disciplinary courses. It means focusing on such abilities as research and learning strategies, critical thinking and communication – recognizing that these abilities will be required to be effective both in the activity for which one is being specifically educated and for many others. If we think about the various roles students will have and the use they might make of their learning, we easily see the need to emphasize these generic abilities. Course or program learning outcomes should reflect this longer-term concern for student learning and contain an appropriate emphasis on both general and specific abilities.

Because the learning outcomes' approach emphasizes the development of generic abilities, we are often asked where the development of specific abilities fits in this approach. Obviously specific abilities must be developed, and even generic abilities are usually best developed, in the context of

meaningful course content. . It is the very nature of generic abilities to be widely applicable. For example, a key outcome of a diesel mechanics course is to be able to fix a diesel engine. This requires being able to apply the general understanding of how diesel engines work using facts about a particular engine, and fairly general diagnostic strategies (critical thinking, problem solving). It also requires the ability to acquire new knowledge and to work well with others – other generic skills. Or take history, when teaching students to "think like an historian" one must teach students to think critically about historical evidence and theories. Critical thinking in this context is both a discipline specific ability and a generic ability.

In developing the learning outcomes for a course one asks what the student should be able to do (or do better) as a result of this course (and why). Such reflections should lead naturally to the identification of both the subject specific and relevant generic outcomes. The emphasis on generic abilities follows naturally from any reasonable analysis of students' learning needs, but the centrality of generic abilities should not be taken to deny the importance of relevant knowledge and understanding.

Learning outcomes and the disciplines

Nor should we be mistaken for claiming that generic abilities are the only important outcomes of post-secondary education. What we are suggesting is that the development of generic abilities be given a central but appropriate role across the curriculum. Familiarity with, and knowledge of, a variety of disciplines is a pre-condition for transfer and integration of knowledge. Successful graduates must know their way about the intellectual world, and know how to acquire and evaluate disciplinary-based knowledge. The challenge is to create the breadth of understanding and strategies of inquiry that would truly enable a graduate to make use of the vast learning produced by disciplinary inquiry.

That said, there is no question that the learning outcomes approach to developing curriculum does not begin with the question "what does my discipline traditionally teach at this level?" Most teachers consider this question as part of their strategy for determining curriculum. They also ask "will this curriculum adequately prepare students for subsequent courses in the discipline?" and faculty in so-called sending institutions must also ask "will this curriculum be acceptable to the receiving institutions?"

The learning outcomes approach does suggest a different leading question: "what do students need to know and be able to do after they graduate (from this course, from this program, from the university...)?" In directing our attention to what students will ultimately do with the knowledge and abilities they acquire, the learning outcomes approach does ask us to look beyond the strict boundaries of disciplinary tradition and demands. Such an approach highlights the tension in many introductory courses between serving the short-term needs of the majors and the longer-term needs of the majority of students. While acknowledging this tension, we suspect that some of this tension is often unnecessary, as the major also needs the kind of general understanding that the non-major should take from the course. It is one of the ironies of post-secondary education that a broad overview of one's discipline or area of study is often acquired in graduate school rather than at the beginning of one's studies. A situation not unlike being handed a map of a city after living in it for four years. Useful but belated.

Integration

The application of knowledge usually requires the integration of knowledge from a variety of disciplines. The learning outcomes approach, with its emphasis on using knowledge and "designing down" the curriculum from the broadest consideration of student learning needs, naturally focuses on the integration of knowledge. How students are brought to integrate their knowledge is a complex educational and institutional question. Interdisciplinary courses/programs are one way of realizing the learning outcomes approach to curriculum since they can embody the kind of integration students must achieve. They also provide intellectually stimulating opportunities for faculty to work together to identify and promote shared outcomes. But barring such arrangements, faculty who see the wisdom of a learning outcomes approach will have to decide what their course/discipline can contribute to reasonable program level goals and fine tune their curriculum accordingly.

Disciplines and use

"Take metaphysics or poetry" some of our colleagues suggest, how can they have learning outcomes? Surely if they are successfully taught they can and do have profound outcomes. Students who learn to read poetry at a post-secondary level should be better equipped to appreciate poetry throughout their lives. Students are not being educated to be literary critics, but if they attain the learning outcome of understanding and appreciating poetry, poetry should continue to enrich their lives after graduation. Re: Metaphysics, a standard question in introductory metaphysics courses is the existence of god. Coming to a reflective decision about whether to believe in God not only will have the profoundest effect on how one will live, but will also develop one's general reasoning powers. "Useable learning" is meant to contrast with learning that only results in the (often fleeting) "possession of knowledge" (as shown by success on short answer tests) or learning characterized by superficial understanding. Students who have not come to see the use of what they have learned to their lives or who do not have the depth of understanding to apply what they have learned, have little or no ability to carry-over their learning to enrich and empower their lives. Unfortunately many students bring to post-secondary education an alienated attitude towards learning -- learning is something you do in school, for school. As a result they are often motivated not by the desire for enhanced understanding and intellectual powers, but rather to satisfy (what they often see as arbitrary) requirements. We do not believe that any teacher sets out to induce such superficial learning in students, but all too often curricular traditions, pedagogy or school structure encourage students to adopt just such an "alienated" posture towards their learning. Reflecting on, and articulating, outcomes is a strategy for curriculum change that should minimize such tendencies.

Transfer and articulation

The transfer system in BC, while largely effective, is facing a significant challenge as the number of "receiving" institutions increases and all institutions become involved in both sending and receiving transfer students. The use of learning outcomes as a vehicle for establishing articulation and transfer and for addressing problems about pre-requisites shows great promise. While talk about outcomes provokes in some concern about the lost of curricular autonomy, the greatest constraint on most college faculties' curricular autonomy is the transfer system. "Sending" institution faculty find it increasingly difficulty to satisfy the requirements of the ever more numerous receiving institutions, and designing courses primarily to meet transfer requirements can well be in tension with addressing student needs other than the need for transfer credit. Many faculty have suggested that transfer constraints prevent them from introducing curricular innovations because introducing such changes could result in their courses no longer receiving transfer credit.

If learning outcomes (descriptions of what students should know and be able to do) were used to provide the basis for course articulation, it would provide faculty at sending institutions with considerably more freedom than the traditional method of examining course material coverage and textbook choices. Courses that share key outcomes could then receive equivalent credit, leaving each faculty member or department to determine the details of the curriculum. Stating pre-requisites not in terms of courses, but in terms of what students need to know and be able to do would provide a more flexible and reasonable means for ensuring that upper level courses are filled with students with the appropriate level of knowledge and skill. Faculty have always been responsible for basing curriculum on what they believed their students need. The learning outcomes approach provides us with a strategy for meeting this responsibility in a clear and appropriate manner.

Faculty concerns

There is considerable skepticism and suspicion among faculty about the learning outcomes approach. Many faculty feel they already are taking a learning outcomes approach to education and all they need to do is change some terminology on their course outlines. An unfortunate waste of time but "heh, if that's what they want." Others fear the imposition of an industrial model on education with outcomes being centrally imposed, courses being modularized, and faculty being de-skilled and replaced with assessors and facilitators, and perhaps even computers. Lastly, many academic faculty see the emphasis on outcomes as pressure for making education more directly serve the short term needs of economy and demands of the business community, rather than the development of a student's thoughtfulness and intellectual independence.

The terminology concern

Hopefully the previous pages on the learning outcomes approach have made it clear that not only is it not a change of terminology, but that to focus on terminology is to miss the point entirely. Learning outcomes are neither learning objectives nor competencies in new dress. The learning outcomes approach reflects a conceptual shift towards making learning more meaningful and effective. For a variety of understandable reasons many students approach education as "alienated intellectual labour," rather than something that is empowering, learning that enhances their lives. Making education more meaningful for these students requires that they acquire a sense of the educational project as enabling them to lead a richer and more empowered life rather than a task done primarily to satisfy the demands of others (passing the test).

By explicitly building a curriculum based on what students should be able to do with their knowledge, the learning outcomes approach helps ensure that students and faculty can see what the point of the course is. The worst thing that could happen to this effort is for it to become mired in word games rather than understanding. In fact, the approach calls (yet again?) for putting understanding (understanding that truly enables students to make use of their new knowledge and skills) as the central educational goal and suggests a number of key changes in teaching and learning that should enable us and our students to realize that goal.

A personal example: as a teacher of critical thinking, one thing I taught among students was to identify typical fallacious arguments. Students found this empowering and useful. But what it never occurred to me to do until thinking about learning outcomes, was to also teach students how to respond to these fallacies. I had been content, (my assessment instrument revealed this) to have students master a taxonomy rather than a real ability to use the taxonomy as a diagnostic tool. Of

course, many of my students did use the taxonomy for that purpose, but that was a case of their making the best of instruction, not my really helping them achieve useable application of their knowledge.

The industrial model concern

The approach emphasized by the Centre is the very antithesis of whatever scary concept faculties have in mind. The learning outcomes approach emphasizes integration, and rejects the idea that learning takes place best by breaking it down into smaller and smaller learning tasks. Undoubtedly there is a place for such learning (e.g., one does need to work on mastering vocabulary in a foreign language -- but the goal is always to learn to speak), but that kind of learning and that pedagogic technique are not what the learning outcomes approach is about.

The business model concern

We do live in times of increased economic anxiety and increased power in the hands of business. Business is having a greater influence in establishing social goals and government policy, so it is understandable that a political change might well have business roots. Some of the pressure for a learning outcomes approach to education -- especially in the US -- does come from business interest. Those who are suspicious of the effectiveness of post-secondary education and wish to see it made more accountable also support the call for learning outcomes. Measuring outcomes can be conceived as a means for realizing accountability. But while there is ground for these concerns, they should not unduly influence us as educators.

Faculties determine curriculum and have the professional responsibility to determine what our curricular outcomes should be. Bill 22, now part of the College and Institute Act, gives legal authority to Education Councils to establish curriculum. Nonetheless, in many fields employers have almost total say as to curricular outcomes through their advisory groups, the establishment of credentials and the purchase of instruction. This is nothing new, and certainly not part of the learning outcomes approach to education. On the contrary, those applied faculty who reflect on what students really need to know and do, keeping in mind the rapidly changing demands of the workplace, realize that a learning outcomes approach requires increasing emphasis on generic skills and not just job specific skills. In applied areas, such an emphasis may well require discussing the importance of generic abilities, and revamping curriculum, pedagogy and credential criteria with advisory and employer groups.

In the less applied areas, a switch to a learning outcomes approach to education does not mean primarily serving business interests unless, *in the professional judgment of the instructor*, what the student needs to know would also serve that interest. What a learning outcomes approach does mean is that those disciplines which haven't thought carefully about what use students will make of their knowledge outside of school need to pay careful attention to this question. If academic courses are not meant to be job preparation courses, they should also not be primarily serving the student going on to post-graduate work and a job in the discipline.

Courses need to be designed to realize outcomes that empower students to make sense of the world they live in, to enhance their appreciation of nature and culture, and to function effectively and thoughtfully in their lives. Such courses should help graduates learn useable knowledge – knowledge that can be utilized in all aspects of a person's life including but not limited to work. It is no secret that students often approach post-secondary education as a means not primarily to live a richer and

better informed life, but as means to a "good job." As responsible educators, we can hardly ignore the fact that much of the support for post-secondary education is based on its role in promoting the economic well being of both the graduate and society. But the abilities needed to do well in a knowledge-based economy are also needed to be effective as a citizen and a deeply thoughtful person. Generic abilities such as critical thinking and effective communication, as well as such abilities as aesthetic appreciation, make one more empowered whether at work, at home, in the public forum or in the woods. For example, learning to identify assumptions (a basic critical thinking skill) is enormously useful in any activity. Accounting students need to understand the assumptions of their enterprise, as do citizens, artists, biologists and economists. Not recognizing one's assumptions limits reflection and creativity in any enterprise. We should respect students' concerns about employment, but emphasize to them the wide use and importance of what we are teaching. Such an emphasis (backed by appropriate pedagogy and assessment) will provide the best and most valuable education for all students.

The "Short" Answer

Despite all the above, we are sure that there will be those who still want a more "precise" notion of the learning outcomes approach. The goal of the learning outcomes initiative is to change the way we think about our curriculum and our teaching, not to change the way we talk. That caution repeated (plus apologies for over simplification), the following definitions and brief statements of our views represent our current thinking and may be of some (dangerous) use.

> **Learning outcomes** are the essential and enduring knowledge, abilities (skills) and attitudes (values, dispositions) that constitute the integrated learning needed by a graduate of a course or program.
>
> **The learning outcomes approach to education** means basing program and curriculum design, content, delivery, and assessment on an explicit identification of the integrated knowledge, skills and values needed by both students and society.

This approach differs from *competency based approaches* in its emphasis on integration and the development of more general abilities that are often overlooked in a competency approach.

It differs from more *traditional academic approaches* that emphasize coverage by its emphasis on

1. basing curriculum on what students need to know and be able to do as determined by student and societal needs not disciplinary tradition,
2. what *students should be able to do* rather than merely what *knowledge they should possess* as a result of a course or program,
3. making explicit the development and assessment of generic abilities.

The determination of learning outcomes should be based on educators' careful and broad analysis of what a competent graduate of the program should be able to do. As public educators we have the social responsibility to ensure that the education provided serves the long-term needs of the students and society. A thoughtful needs analysis recognizes that learning can be, and where appropriate, should be, relevant to the variety of graduates' roles included in their working, civic and personal life.

Learning outcomes should express what the graduate should know and be able to do at the end of the course or program, whether or not this is a result of learning that takes place in the course or program, or is something that the student brought to the learning experience.

Learning outcomes should be the basis for choosing curriculum content and instructional strategies. Curriculum should be "developed down" from the learning outcome ends to the curricular, pedagogic and assessment means.

A key element in the learning outcomes approach is the role of assessment. Assessment choices give clear meaning to the more abstract formulations of the learning outcomes; stating learning outcomes clearly and providing evaluation based on explicit standards greatly facilitates student learning. Assessment tasks (assignments) should also be seen as a primary means of learning. Assessment methods should provide the opportunity for demonstrating the learning outcomes in as integrated and realistic use as possible.

The Learning Outcomes Network has worked hard during a brief period to develop the learning outcomes approach into a rich means for improving the relevance and quality of learning in the BC post secondary system. Hopefully this brief summary of our reflections and research will encourage others to join us in our effort to bring the most valuable education possible to our students. Network wide discussions in which all contributed are the basis of this document, but special thanks is owed to the Gillies Malnarich, Diana Davidson, Lyne Powell, Devron Gaber and Dan Nykon for their specific suggestions for improving this document.

If you wish to discuss any of the issues raised in this paper please contact:

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